REMARKS

This Amendment is in response to the Office Action dated October 19, 2005 in which claims 1, 6 and 15 were initially rejected, claims 10-14 were withdrawn from consideration and claims 2-5, 7-9 and 16-20 were objected to as being dependent upon a rejected base claim but were indicated as otherwise being allowable. Applicants would like to thank the Examiner for the indication of allowable subject matter and request reconsideration and allowance of all remaining claims in view of the above-amendments and the following remarks.

I. RESTRICTION REQUIREMENT

Applicants affirm the previous election to prosecute the invention of group I, claims 1-9 and 15-20, with claims 10-14 being withdrawn from further consideration.

Applicants reserve the right to pursue claims 10-14 in one or more subsequent continuation applications.

II. OBJECTIONS TO THE SPECIFICATION

The abstract of the disclosure was objected to because of minor informalities, which have been corrected above.

First, the abstract was objected to since the term "character" should be replaced with --characteristic-- as requested in the Office Action. The abstract is amended accordingly. Second, the Office Action suggested that the "first" in line 12 should be --second-- for conformance with Applicants' disclosure on page 4, lines 9-19 of the specification. Applicants respectfully disagree since the terms "first" is correct in the abstract. Accordingly, page 4, lines 16-18 are amended to conform to the description in the abstract and to the description appearing on page 11, lines 9-13, page 12, lines 13-17 and page 12, lines 21-23.

Third, the Office Action suggested that the "predetermined marked cell" in lines 10-12 should be --marked

cell having the predetermined characteristic--. Accordingly, the abstract is amended as suggested in the Office Action.

III. CLAIM OBJECTIONS UNDER C.F.R. §1.75

Claim 19 was objected to as being a substantial duplicate of claim 17. Accordingly, claim 19 is canceled.

IV. CLAIM OBJECTIONS

Claim 1 was objected to for similar reasons as the abstract, specifically regarding "a predetermined marked cell" in lines 10 and 12-13 and with respect to "first" in line 12. Accordingly, claim 1, is amended to replace "a predetermined marked cell" with --one of the marked cells having the predetermined characteristic-- in a similar manner suggested in the Office Action.

However, the term "first" in claim 1, line 12 is correct since clock uncertainty is calculated based on the delay associated with the first path, between the marked cell and the receiving cell. This can be confirmed in the example equation shown on page 12, line 23, where D_{clk2} is the delay from the clock source to the receiving cell (page 11, lines 9-11) and $D_{common-i}$ is the delay from the clock source to the marked cell (page 12, lines 15-17). Thus, $D_{clk2}-D_{common-i}$ represents the delay between the marked cell and the receiving cell.

Regarding claims 3, 5, 8-9 and 17 these claims are amended as suggested in the Office Action to conform to the amendments made to independent claim 1 and independent claim 15. Independent claim 15 is amended in a similar fashion. Claim 19 is canceled.

Claim 6 is amended to replace "the maximum" with --a maximum-- as suggested in the Office Action.

Claim 7 and 20 are amended to remove the redundant language as suggested in the Office Action.

V. CLAIM REJECTIONS UNDER §103

Claim 1, 6 and 15 were rejected under §103(a) as being unpatentable over Spyrou, U.S. Patent No. 5,608,645 in view of Chen et al., U.S. Patent No. 5,835,751.

Applicants note the Examiner's statement on page 5, first paragraph that, "For examination purposes, it is assumed that 'predetermined marked cell' can be the same or different from the 'cell' marked in the marking step, and step (c) (lines 11-13 and 14-17 respectively) is based on the 'first' path as presently claimed." With this Amendment, claim 1 is amended to clarify that the marked cell in step b is one of the marked cells marked in the marking step a). Accordingly, this limitation should be taken into consideration during further examination.

Spyrou simply determines instances located along a critical path such that those instances can be reconfigured to minimize setup time violations (see FIG. 4, steps 412 and 414).

Spyrou does not disclose back-tracing a first path from a receiving cell toward a clock source and marking each cell having a predetermined characteristic along the first path, as recited in step a) of claim 1.

Spyrou also do not disclose back-tracing a second path from a launching cell toward the clock source to one of the marked cells having the predetermined characteristic, as recited in step b) of claim 1.

In addition, Spyrou does not disclose calculating clock uncertainty based on a delay associated with the first path between, the marked cell and the receiving cell, as recited in step c. Rather, Spyrou simply determine the worst case clock delay for each instance (see step 404 of FIG. 4).

The Office Action suggested Chen et al. teach the use of backward tracing to identify the clocking paths, including the use of marking to reduce the amount of time to traverse through the paths. However, Chen et al. do not disclose back-tracing in the context of the elements of independent claim 1 discussed

above. Therefore, even if the teachings of Spyrou and Chen et al. were combined as suggested in the Office Action, the resulting combination would still fail to teach or suggest the invention recited in claim 1 and its dependent claim 6. Independent claim 15 includes similar limitations that are neither taught nor suggested by Spyrou or Chen et al. either separately or in combination.

Accordingly, Applicants respectfully request that the rejection of claims 1, 6 and 15 under §103 be withdrawn.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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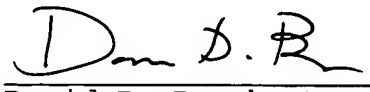
By: 

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